



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/813,367      | 03/30/2004  | Wei-Kuo Lee          | DOW-31481-A         | 4720             |

29423 7590 05/02/2005

WHYTE HIRSCHBOECK DUDEK S.C.  
555 EAST WELLS STREET  
SUITE 1900  
MILWAUKEE, WI 53202

|          |
|----------|
| EXAMINER |
|----------|

NGUYEN, CHAU N

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2831

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Ak

|                              |                                      |                                   |  |
|------------------------------|--------------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/813,367 | <b>Applicant(s)</b><br>LEE ET AL. |  |
|                              | <b>Examiner</b><br>Chau N. Nguyen    | <b>Art Unit</b><br>2831           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/30/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2831

4. Claims 1, 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delphin et al. (4,717,505) in view of Smalley et al. (6,183,714).

Delphin et al. discloses a composition comprising polyethylene (a), at least about 3 parts by weight, based on the weight of component (a), carbon fiber (b), and a conductive carbon black (c) other than the carbon fiber, the carbon black being present in an amount at least about 10 parts by weight, based on the weight of the component (a) (col. 3, lines 29-34). Noted that the limitations followed by the term "optionally" are not positive limitations (re claims 1 and 7).

Delphin et al. does not disclose the composition comprising carbon nanotubes nor the composition being used to surround a conductor. Smalley et al. discloses a composition comprising carbon nanotubes. Smalley et al. discloses that carbon nanotubes are useful as strengthening agents in any composite material or useful in combining with other forms of carbon such as carbon black (col. 3, lines 61-65). Accordingly, it would have been obvious to one skilled in the art to replace the carbon fiber with carbon nanotubes in the composition of Delphin et al. since it is taught by Smalley et al. that carbon nanotubes are useful as strengthening agents in any composite material or useful in combining with other forms of carbon such as carbon black. It would also have been obvious to one skilled in the art to use the composite of Delphin et al. to surround a conductor since the composition of Delphin et al. provides both electrical and mechanical properties.

The modified composition of Delphin et al. also discloses the component (c) being present in an amount of about 10 to about 100 parts by weight per 100 parts by weight of the component (a) (re claim 4), for each 100 parts of component (a), component (b) being present in an amount of about 3 to about 17 parts by weight, component (c) being present in an amount of

Art Unit: 2831

about 10 to about 100 parts by weight, and the weight ration of component (b) to component (c) being about 0.1:1.0 to about 10:1 (re claim 5),

5. Claims 2, 3, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delphin et al. in view of Smalley et al. as applied to claim 1 above, and further in view of Burns, Jr. (4,857,232).

The combination of Delphin et al. and Smalley et al. discloses the invention substantially as claimed except for the component (a) being a copolymer of ethylene and an unsaturated ester which is vinyl esters, wherein the unsaturated esters is present in the ethylene/unsaturated esters copolymer in an amount of about 10 to about 55 percent by weight. Burns, Jr. discloses a composition comprising a copolymer of ethylene and an unsaturated esters (vinyl esters), wherein the unsaturated esters is present in the ethylene/unsaturated esters copolymer in an amount of about 10 to about 55 percent by weight (col. 2, lines 1-8). It would have been obvious to one skilled in the art to use the copolymer as taught by Burns, Jr. for the component (a) of Delphin et al. since this copolymer is well-known in the art for being used in polymeric compositions.

***Cited Art***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prysner and Yarbrough et al. disclose compositions comprising carbon black.

Art Unit: 2831

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N. Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chau N Nguyen  
Primary Examiner  
Art Unit 2831